

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-5 (cancelled)

Claim 6. (previously presented) The method of switching optical transmission lines according to claim 28 wherein said blocking steps are accomplished by gating of the optical signals.

Claim 7. (previously presented) The method of switching optical transmission lines according to claim 28 wherein said blocking steps are accomplished by failing to perform electronic to optical conversion of the optical signals.

Claim 8. (previously presented) The method of switching optical transmission lines according to claim 28 wherein said blocking steps are accomplished by processing of electrical signals representing the optical signals.

Claim 9. (previously presented) The method of switching optical transmission lines according to claim 28 further comprising:

storing correspondence data on the first terminal, a second terminal a third terminal and a fourth terminal for ascertaining original connections subsequent to said switching steps.

Claim 10-14. (cancelled)

Claim 15. (previously presented) The system for switching optical transmission lines according to claim 29 wherein said first blocking unit and said second blocking unit further comprise an optical gate.

Claim 16. (previously presented) The system for switching optical transmission lines according to claim 29 wherein said first blocking unit and said second blocking unit further comprise an electronic-to-optical converter.

Claim 17. (previously presented) The system for switching optical transmission lines according to claim 29 wherein said first blocking unit and said second blocking unit further comprise an optical-to-electronic converter for converting an optical signal to an electrical signal and a processing unit connected to said optical-to-electronic converter for processing the electrical signal.

Claim 18. (previously presented) The system for switching optical transmission lines according to claim 29 further comprising:

a storage unit connected to said first switch and second switch for storing correspondence data on said first terminal, a second terminal a third terminal and a fourth terminal for ascertaining original connections subsequent to switching.

Claim 19. (cancelled)

Claim 20. (previously presented) The optical protection switching apparatus according to claim 30 wherein said switch is a four-in-four-out optical switch.

Claim 21. (previously presented) The optical protection switching apparatus according to claim 30 wherein said switch is a set of two two-in-two-out optical switches.

Claim 22. (previously presented) The optical protection switching apparatus according to claim 30 wherein said switch further comprises one one-in-two-out optical switch, two two-in-one-out switch and an optical splitter.

Claim 23. (previously presented) The optical protection switching apparatus according to claim 30 wherein said switch further comprises two two-in-two-out optical switches.

Claim 24. (previously presented) The optical protection switching apparatus according to claim 30 wherein said line isolator is an optical gate.

Claim 25. (previously presented) The optical protection switching apparatus according to claim 30 wherein said line isolator is an electronic-to-optical converter.

Claim 26. (previously presented) The optical protection switching apparatus according to claim 30 wherein said line isolator further comprises an optical-to-electronic converter for converting an optical signal to an electrical signal and a processing unit connected to said optical-to-electronic converter for processing the electrical signal.

Claim 27. (previously presented) The optical protection switching apparatus according to claim 30 further comprising:

a storage unit connected to said switch for storing correspondence data on the transmitters and the receivers subsequent to switching.

Claim 28. (previously presented) A method of switching optical transmission lines among terminals, a first terminal and a third terminal being initially communicating via a first optical transmission line, a second terminal and a fourth terminal being initially communicating via a second optical transmission line, a first node being located between the first terminal and the first optical transmission line as well as the second terminal and the second optical transmission line, a second node being located between the third

terminal and the first optical transmission line as well as the fourth terminal and the second optical transmission line, comprising the steps of:

- detecting a predetermined fault condition on the first optical transmission at the second node;
- blocking an output to the fourth terminal from the second node;
- transmitting a first switch request from the second node to the first node;
- blocking an input from the second terminal to the first node in response to the first switch request;
- switching the first terminal to connect to the second optical transmission line from the first optical transmission line after the input is blocked from the second terminal;
- transmitting a second switch request from the first node to the second node; and
- switching the third terminal to connect to the second optical transmission from the first optical transmission in response to the second switch request.

Claim 29. (currently amended) A system for switching optical transmission lines among terminals, a first terminal and a second terminal being initially communicating via a first optical transmission line, a third terminal and a fourth terminal being initially communicating via a second optical transmission line, comprising:

- a second node being located between the second terminal and the first optical transmission line as well as the fourth terminal and the second optical transmission line, further comprising:
 - a fault detection unit detecting a predetermined fault condition on the first optical transmission;
 - a second blocking unit connected to the fourth terminal blocking an output to the fourth terminal from the second node;
 - a second switch request unit for transmitting a first switch request from the second node to the first node; and
 - a second switch connected to the second terminal, the fourth terminal, the first optical transmission line and the second optical transmission line; and

a first node being located between the first terminal and the first optical transmission line as well as the third terminal and the second optical transmission line, further comprising:

a first blocking unit connected to the third terminal for blocking an input from the third terminal to the first node in response to the first switch request;

a first switch connected to the first terminal, the third terminal, the first optical transmission line and the second optical transmission line for switching the first terminal to connect to the second optical transmission line from the first optical transmission line after the input is blocked from the third terminal; and

a first switch request unit for transmitting a second switch request from the first node to the second node, wherein said second switch unit switching the second terminal to connect to the second optical transmission line from the first optical transmission line in response to the second switch request.

Claim 30. (previously presented) An optical protection switching apparatus, a first terminal being initially connected to another one of the optical protection switching apparatuses via a first optical transmission line, a second terminal being initially connected to said another optical protection switching apparatus via a second optical transmission line, comprising:

a switch for switching connections of the first terminal and the second terminal with respect to the first optical transmission line and the second transmission line in response to a switch activation signal;

a switch request unit connected to the first optical transmission line for transmitting to said another one of the optical protection switching apparatuses a switch request message indicative of a switch between the first optical transmission line and the second optical transmission line in response to a switch request signal;

a blocking unit connected between the second terminal and said switch for blocking an optical signal between the second terminal and said switch in response to a blocking signal and generating a block completion signal upon completing the block;

a monitor unit connected to the first optical transmission line for detecting a predetermined fault condition in the first optical transmission line and generating a fault condition signal; and

a controller connected to said monitor unit, said switch request unit and said blocking unit for generating the blocking signal in response to the fault condition signal and the switch request signal in response to the block completion signal.

Claim 31. (previously presented) An optical protection switching apparatus according to claim 30 wherein said controller generates the switch activation signal upon receiving another one of the switch request message from said another one of the optical protection switching apparatuses after said switch request unit has transmitted to said another one of the optical protection switching apparatuses an original one of the switch request message.

Claim 32. (previously presented) An optical protection switching apparatus, a first terminal being initially connected to another one of the optical protection switching apparatus via a first optical transmission line, a second terminal being initially connected to said another optical protection switch apparatuses via a second optical transmission line, comprising:

a switch for switching connections of the first terminal and the second terminal with respect to the first optical transmission line and the second transmission line in response to a switch activation signal;

a switch request unit connected to the first optical transmission line for transmitting to said another one of the optical protection switching apparatuses a switch request message indicative of a switch between the first optical transmission line and the second optical transmission line in response to a switch request signal;

a blocking unit connected between the second terminal and said switch for blocking an optical signal between the second terminal and said switch in response to a blocking signal and generating a block completion signal upon completing the block; and

a controller connected to said switch request unit and said blocking unit for generating the blocking signal upon receiving another one of the switch request message from said another one of the optical protection switching apparatuses and for further generating the switch request signal in response to the block completion signal.